

PROCEEDINGS
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A NEW ELK FROM CALIFORNIA, *CERVUS NANNODES*.
BY C. HART MERRIAM.

During the early days in California, elk were abundant in most parts of the San Joaquin and Sacramento Valleys, particularly in and about the tule sloughs bordering the Sacramento, San Joaquin, Kings, Kern and other rivers, and Tulare, Buena Vista and Kern lakes. The encroachments of civilization have resulted in the gradual extermination of this elk over the greater part of its former range, until in recent years it has become restricted to a small area between Tulare and Buena Vista lakes,

where at present the survivors are confined almost exclusively to lands included in an extensive cattle ranch (Buttonwillow Ranch) owned by Miller and Lux. Knowing that the other mammals of the hot San Joaquin Valley differ materially from their mountain relatives, and feeling confident that the elk would prove no exception to the rule, I have tried for fifteen years to obtain specimens, but until recently without success. Two or three years ago Miller and Lux presented the herd to the United States Government, through the Biological Survey of the Department of Agriculture. A park for their reception was constructed on Kaweah River in the Sequoia National Park, and on November 12, 1904, a notable drive was made for the purpose of corralling the animals. The drive was carefully planned and many of the best riders of the San Joaquin Valley took part in it. It was not a success, for the reason that the elk refused to be driven and escaped to the adjacent foothills of the Templea Mountains. During the excitement of the chase the vaqueros roped eight or ten of the elk. Most of these died. Their skins and skulls were carefully preserved and are now in the collection of the Biological Survey in the U. S. National Museum. Comparison of these specimens with the three species of elk heretofore known from the United States (*Cervus canadensis*, *C. roosevelti*, and *C. merriami*) shows that the Joaquin animal is very different from any of them—far more different in fact than they are from one another. It is very much smaller, shorter legged, much paler in color, and has more white on the ears. Comparison of skulls shows that its affinities are with *Cervus canadensis* of the Rocky Mountains rather than with *roosevelti* or *merriami*. The accompanying illustration is from a photograph, taken by me November 12, of an old bull, apparently the leader of the band. He was roped during the drive and carried on a wagon to the corral.

The species may be known from the following description :

***Cervus nannodes* sp. nov.**

Type from Buttonwillow, Kern County, California, No. 135,042, male, 2-year-old, U. S. National Museum, Biological Survey Collection. Collected November 12, 1904, by C. Hart Merriam and E. W. Nelson.

Characters.—Size small; legs short; coloration pale; fur of ears soft, almost woolly; white rump patch small and narrow; front of legs and feet

bright golden fulvous; back and flanks varying from buffy gray, slightly washed with fulvous, to grizzled buffy whitish.

Color.—Type specimen: Head and shoulders grizzled grayish brown, only slightly washed with fulvous on neck and shoulders; back grizzled whitish buffy, becoming pale fulvous on sides; rump patch and tail soiled whitish, much smaller and narrower than in the other known species; ears varying from buffy ochraceous to ochraceous fulvous; the inner side, borders, and outer base both anteriorly and posteriorly, buffy white, the white, particularly at posterior base, much more extensive than in the other species; anterior surfaces of fore and hind legs bright golden fulvous, strikingly different from the dark brown or chestnut brown of the others; posterior aspect of fore and hind legs buffy fulvous; mane on throat well developed, long, harsh, grizzled grayish brown; dark thigh stripe (separating white of inner side from grayish fulvous of outer side) only slightly marked. An old bull is similar but has the neck all round abruptly much darker than the body. The mane also is more extensive, covering the sides of the neck as well as the throat.

An adult female collected at the same date and place (No. 135,047) differs from the type in being more fulvous above; in having the back less whitish; the rump patch whiter and more sharply defined; the throat mane less strongly developed but still well marked. Three yearlings of both sexes are in color intermediate between the male and female above described. The top of the head is more like that of the female, being fulvous instead of grayish brown. The sides of the back and flanks are dark buffy gray, becoming pale fulvous posteriorly on sides of rump and thighs.

Cranial characters.—Skull in general similar to that of *canadensis* (not broad anteriorly as in *roosevelti* and *merriami*), but smaller, lower, and notably shorter; palatal bones decidedly longer; upper surface of supraoccipital decidedly shorter. The skull of the type, a two-year-old male, compared with the skull of a male *canadensis* of the same age from Manitoba, shows the following differences: Size smaller; fronto-parietal region more depressed; bullæ decidedly smaller; muzzle more constricted laterally behind canines; supraoccipital on top of skull shorter; encroaching much less on parietals; the parietals correspondingly longer; palatal length and length of palatal bones decidedly shorter. The palatal surface of the maxillaries and premaxillaries is of the same length in both species, the greater palatal length of *canadensis* resulting from the greater length of the palatal bones in that species. The molars and premolars are of essentially the same size in both—hence relatively larger in *nannodes*.

Antlers.—Similar in general to those of the Rocky Mountain Elk but smaller and with posterior terminal prong less strongly developed.

Measurements.—Type specimen (2-year-old male): Total length, 2,030 mm; tail vertebræ, 140; hind foot, 620.

Cranial measurements of type specimen.—Basilar length, 358 (in *canadensis* of same age, 388); zygomatic breadth, 155 (in *canadensis*, 168); occipito-sphenoid length, 79 (in *canadensis*, 90); palatal length, 230 (in *canadensis*, 255), length of palatal bones, 36 (in *canadensis*, 60); palatal floor of maxillaries, 112 in both; palatal floor of premaxillaries, 82 in both.